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Ex. W. L. M.

Inaugural Dissertation  
on

Cynanche Trachealis

by

Albert Sargeant

of

New Jersey

Nov. 2<sup>d</sup> 1826.

Monday at 10 o'clock

1827

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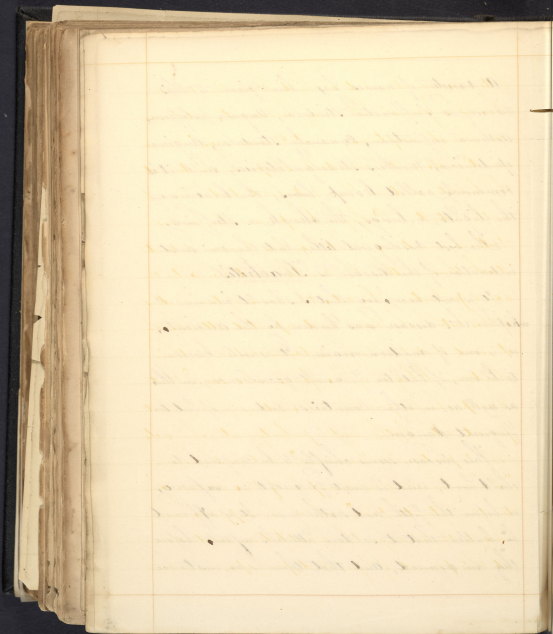
1833

A variety of names has been given to this disease, as Suffocatio Stridula, Angina polyposa, Asthma infantum, Cynanche Stridula, Angina epidemica, morbus strangulatorius, and it is commonly called Croup, Hoarseness, the hoarseness of the ligaments, or lungs, the croup, or Hoarseness.

The best nosological title, and the one most indicative of the disease, is Trachetis.

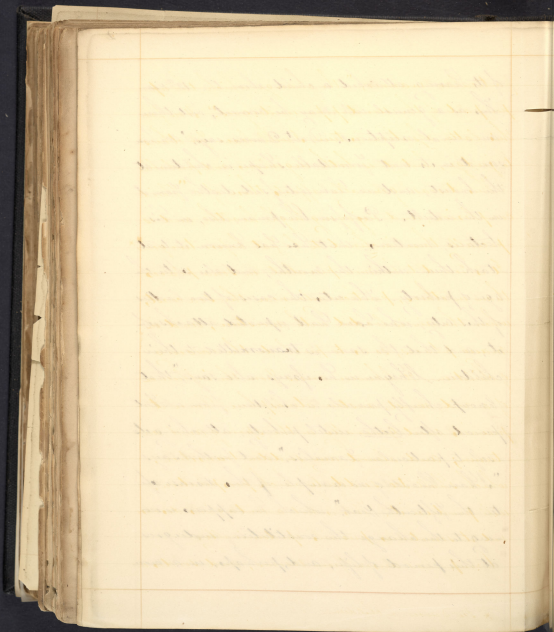
It is not necessary that I should inquire whether this disease was known by the ancients, or is one of modern origin. It is well known to be one, of but too frequent occurrence, in this as well as, in other Countries, and one of but too frequent danger.

This disease seems chiefly to be confined to childhood, and is most frequent in infancy, or before the fifth, and sixth year. It is affirmed by Huxley, that it seldom attacks infants, before they are weaned, and that there is no instance





of its having attacked a child above the 12<sup>th</sup> year.  
 This as a general rule may be correct, but there  
 are several exceptions. Doct. Duverney says, "We have  
 seen it in its most formidable shape in children at  
 the breast, and we have witnessed death from it  
 in the adult. Professor Chapman, also, in his  
 lectures, mentions, that he has known it to at-  
 tack them within the month, and also after the  
 age of puberty. He cites the cases of two ladies  
 of this city, who have had repeated attacks of  
 it, and that the same is transmitted to their  
 children. Whym in his essays also says, "that  
 group chiefly prevails in children from a short  
 period after birth, until puberty, attacking its-  
 self to particular families," and further says  
 "I have heard of no example of this disease af-  
 ter the fifteenth year," which he supposes is due  
 to the change the constitution undergoes  
 at this period of life, and, perhaps, in a man



particular manner, "the change which the upper part of the wind-pipe undergoes." How far this latter assertion is true, I will leave for others to judge, but it is both ingenious and probable.

This disease generally affects those of a "florid complexion, and enjoying high health, and is especially those inclined to be fat before two years\*"

It is found to be more prevalent in some places than in others, particularly near the sea coast, where the air is loaded with moisture, and in many places, so as to preclude the raising of children. It likewise arises from the influence of a cold, moist, and stercoraceous atmosphere, hence it prevails most generally in the spring and autumn; and almost any sudden transition, which shall too suddenly check perspiration, will produce it. This is not a contagious disease, but it sometimes prevails epidemically.

Croup has arisen from worms, and scurvy in

\* See Diseases of children.



the intestines. Profr. Chapman, in his lectures, mentions the case of a child being immediately relieved by the discharge of worms. It also arises from oppression of the stomach from indigestible food.

This disease has been divided into Spasmodic and Inflammatory. For the ideas which I have on this subject, I am much indebted to the distinguished Professor, Dr. Chapman; he, considering, that, in all cases, when it suddenly attacks, it must partake of the nature of Spasme; for time says he, is required to induce inflammation, which consist in an altered action of the vessels of a part, effected comparatively by a slow process; and no cause promotes it quicker than Spasmodic constriction; and indeed the early symptoms correspond with the pathology, and dissections fully confirm it, showing when death suddenly takes place, no existing marks

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of inflammation. But when the disease slowly approaches, it is the effect of inflammation of other parts extending to the trachea, as sometimes happens, in measles, scarlet fever, and most of the anginous affections, it is of a contrary character, and post mortem examinations have revealed such appearances, as might have been anticipated.

D.<sup>r</sup> DuRoi. does not believe in the presence of spasm, in either the forming, or formed stage, of this complaint. He thinks it may and probably does take place in the last or "congestive stage," as he denominates it. The distinction however leads to no practical difference, whether one or the other, depletory measures must be used.

It attacks in various ways. It commonly comes on at night, about two, or three O'clock in the morning, and sometimes without any premonition.

The child wakes up with a hoarse, dry, stercidulous cough, which is peculiar to the disease.







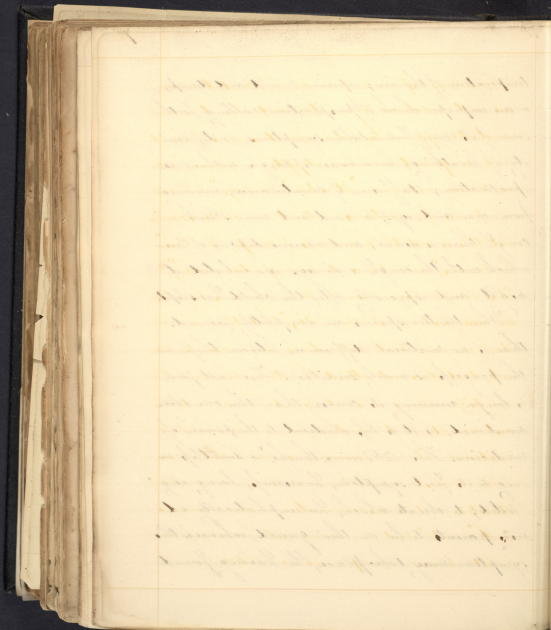
and is compared to the barking of a dog, or the crowing of a cock. Attendant with this, there is a difficulty of breathing, which is very distressing to the patient, threatening in some instances suffocation. The face is flushed, and the pulse quick and irritated, great restlessness and anxiety. The child tosses about the bed, and will not remain in one position, nor can its complaints, in any way be appeased. It whines, and cries and frets, and seems to be very uneasy, without suffering any positive pain. Such cases, very likely depend on spasms, and terminate fatally, if relief is not afforded, and if relieved will probably return the next night.

But sometimes the disease approaches more gradually, by a hoarseness which is preceded up-  
-on coughing, and may continue without increase for even several days, or until the sudden applica-  
-tion of some exciting cause, as a change in the

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temperature of the air; exposure to cold and damp,  
or an improper check of perspiration, calling forth  
some of its more formidable symptoms, as difficult-  
ty of breathing; an increase of cough without ex-  
pectoration; suffusion of countenance, running  
from nose and eyes; a hard and more shrill  
cough than is usual, and various degrees of fever  
which with the cough is always exacerbated at  
night, and especially after the child has slept.

When the two species are completely formed,  
there is no material difference between them and  
the progress is nearly similar. This last form  
is longer running its course, than the one above  
mentioned, as it is less obedient to the powers of  
medicine. This Dr. Dower, thinks, "is doubtless re-  
-sulting to its first symptoms, hoarseness, being neg-  
-lected; to obviate which, he emphatically ad-  
-vises parents to be on their guard, whenever this  
symptom may take place, he having found



it, from long experience, to be one, of a most dangerous, and threatening character, and when it is immediately opposed by active remedies, this formidable complaint has been stopped, in limine, in several instances. "It is true" he says "a hoarseness passes off, sometimes, without much mischief, but this is not the hoarseness of croup, for this," he believes, "never takes its leave spontaneously." He, therefore lays down the following rules, by which we may distinguish them, viz. "that there is a certain clearness and distinctness, in the croupy sound, that does not attend the other; the one (the croupy) seeming as if it issued from a metallic instrument; and the other from a less vibrating material. The ear, however, by long habit, may learn to distinguish them; and when once instructed in this discrimination, never loses its tact;" and, "that the vesicular hoarseness is almost always accompanied by a little soreness

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of throat; while that of croup, "he believes, "never is" again," the first is perceived in common speaking; whereas that of Croup is only discernable, in the commencement, by coughing; and lastly, "Some little pain and soreness are observed about the posterior Fauces, after coughing, in the one, which never happens in the other." Still he advises, "that whenever hoarseness takes place, not to trust too much to the discriminating powers of the ear, for its nature; but instantly proceed upon the supposition, that it may be of a dangerous kind. He also observes in a note, "that it may be remarked, as a general rule, that when the voice becomes suddenly affected by hoarseness, which discovers itself in speaking, and without being so in coughing, it is not the hoarseness of Croup. This kind of hoarseness, however, is more common to adults, than to children.

Diagnosis is easy. It may be distinguished



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From acute asthma, by the peculiar, ringing, coughs,  
In Croup the pulse is strong, and veins high,  
coloured, and the voice shrill, and small, whereas  
as in acute asthma, the pulse although equal  
is quick, is less full, the voice is hoarse, the  
voice croaking and deep. It may be distinguis-  
hed from C. Laryngea, by the absence of fae-  
ces; uneasy sensation in the larynx; exemption  
from the cough, and peculiar intonation of Croup,  
by the period of life at which it occurs - the  
first being incident to childhood - the latter to  
advanced age - painful deglutition - swelling  
of the fauces; and perpetually increasing diffi-  
culty of breathing.

Prognosis. By pursuing a proper and vigor-  
ous practice, we may arrest it in its early stage;  
but if it continues, and the lungs become affec-  
ted, it is dangerous. The most favourable sym-  
ptoms are, the medicines operating well, partic-



alarms the Emetics; the breathing becoming more easy; loose cough, remission of Fever; and the pulse becoming natural; but if these should not happen, we have a weak pulse; pale countenance; heaviness of the Shoulders; and the heart thumping hard, and thrown forward against the ribs. These two last symptoms, Prof. Chapman, tells, are very dangerous, and the child seldom recovers from them.

Dissections are various, according to the stage of the complaint; the violence of the attack; and the treatment pursued. The trachea is generally inflamed, sometimes extending down to the extremities of the bronchia, into the substance of the lungs. Sometimes we find the lungs covered with blood, and so solid, as to resemble the substance of the Liver, called Hepatisation of the Lungs.

Sometimes a membrane is found lining the trachea, extending from below the Larynx, to the bron-



-chial ramifications, and Dr. Ducce says, that he has seen it within them. The existence of this membrane has been denied by some, declaring it, to be nothing but inspissated mucus.

Professor Chapman says, that he has never met with it, having observed nothing more than slight marks of inflammation, with more or less of mucus.

That such a membrane does exist, I have not the least doubt, as we have the testimony of some of the most respectable practitioners, as Ducce, Hoffack, O'Keefe, and Frances\*. Nothing is more common, than to see lymph poured out from vessels in a certain state of action, and forming adhesions, or artificial membranes, an example of the latter of which, we have in this disease.

Treatment. From what has been said, it will appear evident, that nothing but the most active remedies can arrest the progress of this formidable disease. Therefore the instant we observe the ~~onset~~

\* And Cullen.



for sound, we should inflame the external throat by the application of the optes, Turpentine, Hartshorn or Mustard and vinegar; and in aid of these external applications, we may direct in doses suitable to the age of the patient, "the compound syrup of Squills," or Dobson's Thick syrup, as an Emetic, and afterwards, in small doses, as an expectorant, or as Proffor Chapman prefers the Tart. Antimony given at short intervals, and if this should not succeed add Ipecac. and Calomel which, he says seldom fails. I have seen several cases, in which the Thick syrup, was administered with the most decided advantage. While the Emetic is operating P. Chapman advises the patient to be put into a warm bath for 10 or 15 minutes.

"It rarely fails to promote the operation of the Emetic, and will sometimes alone cure the disease."

The Emetic however not operating, or if after its operation, the patient is not relieved, bleed copious

*[Faint, illegible handwriting in cursive script, likely a ledger or account book entry, spanning approximately 15 lines.]*



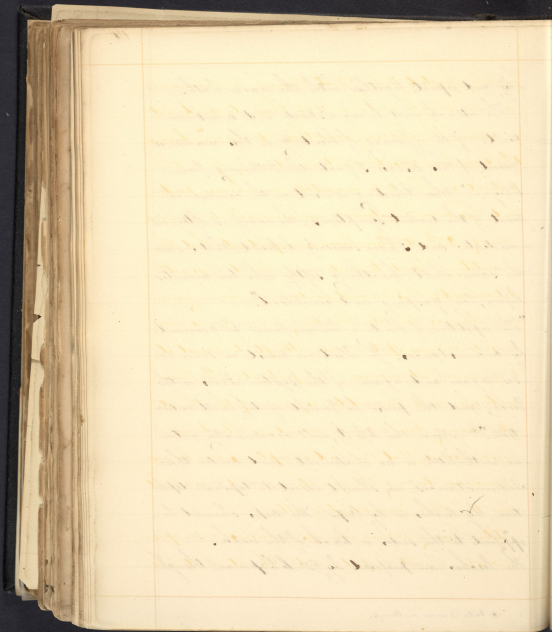
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be and repeat, together with the warm bath.

The attack must be very obstinate, if it do not now yield. If the efficacy of bleeding in this commencement of this disease I quote the following from Broussais. "When bleeding is used on the commencement of the violent symptoms, the relief is often immediate, and I have scarcely believed, that I saw the same child, breathing softly, who, ten minutes before, lay gasping and convulsed."

"The repetition of bleeding, however must be governed by circumstances; For bled we must, in some cases, again and again, if the system reacts with force, and the pulse be found of difficult reduction."\* Never the less it will occasionally continue, with little or no abatement; and under these circumstances, we should resort to topical depletion, by leeches or by cups. The cups should be applied to the sides or back of the neck.

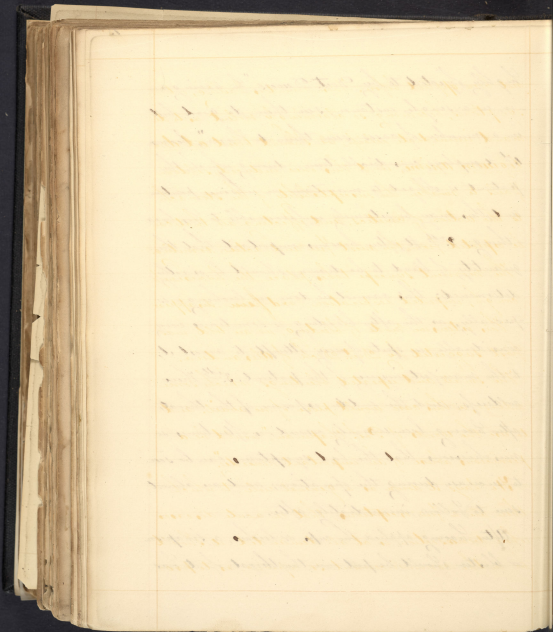
The leeches are preferred by Dr. B. Chapman, though

\* Vide, Diseases on Croup.



highly objected to by Doct. Duross, "he having never, in a single instance, seen them do good, but in a number of cases, seen them do harm", because  
1.<sup>st</sup> It employs considerable time; during which, the patient is obliged to maintain an uneasy position and this may be extremely unfavourable to his breathing. 2.<sup>nd</sup> It often becomes important, that the quantity of blood to be drawn, should be exactly determined; this cannot be done in leeching - especially, as the after bleeding is sometimes very considerable, in spite of every attempt to arrest it, to the manifest injury of the patient. 3.<sup>rd</sup> Their coldness; and the sudden exposure of the throat, after having been warmly covered, is often times so mischievous, that the bad symptoms can be seen to increase during the operation; and are almost sure to follow, immediately after.

After having applied the cups or leeches, a sinapiem or blister should be put over the throat, if it has



not been applied before. When remedies fail, and the symptoms, becoming so alarmingly violent, as to demand immediate relief, we should bleed ad delirium animi, and this, once induced, seldom fails, to awaken the susceptibility of the stomach to the action of emetics, and effecting all that can be expected from the most free and active vomiting.

The moment syncope takes place, the heart itself coughs, impeded respiration takes place, &c. &c. &c.

This extensive mode of bleeding, we are told, was first suggested by Doct. Dick of Alexandria.

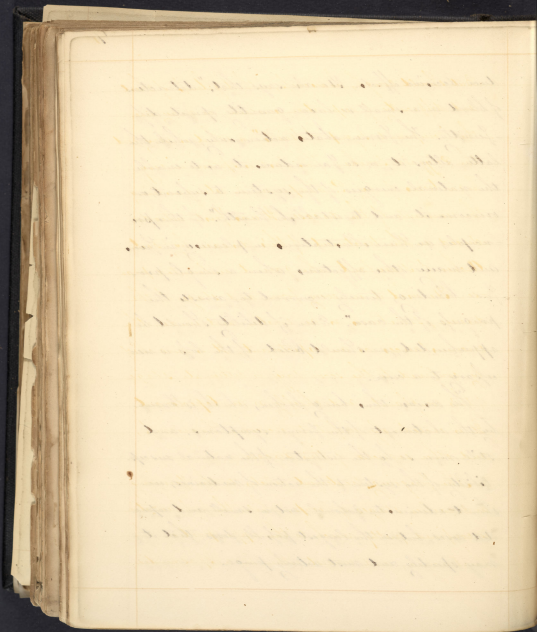
The small and repeated bleedings, which some advise, in this case would prove of no avail, and to use the words of Prof. Chapman, "would be a pernicious abuse of an important remedy."

He lays it down as a general rule, to which there are a few exceptions, that in acute diseases where venesection is at all demanded, it should be in the commencement so copious, as to pro-

Handwritten text in a cursive script, likely a ledger or account book. The page is ruled with horizontal lines. The text is written in dark ink, with some words highlighted in yellow. The handwriting is dense and fills most of the page.

duce decisive effects. He also says, that, "detraction  
of blood in a small or large quantity, operates dif-  
-ferently. The former abates action only, while the  
latter alters it, or, so far reduces it, as to enable  
the natural energies of the system to subvert, or  
overcome it, and to establish health." Of this pri-  
-nciple, we have illustrations in pleurisy, in fever,  
and many other affections, where a single pro-  
-fuse bleeding, timely occurred to, arrests the  
progress of the case. Even if debility should be  
apprehended, we should bleed, if the loss is ne-  
cessary to a cure.

The disease thus being broken, which is known  
by the abatement of the former symptoms, and  
still more so by the restoration of the natural suscep-  
-tibility of the system to the action of medicines, we  
should administer Calomel, not in small and repea-  
-ted doses, but in the largest possible doses, that it  
may speedily and most actively purge.



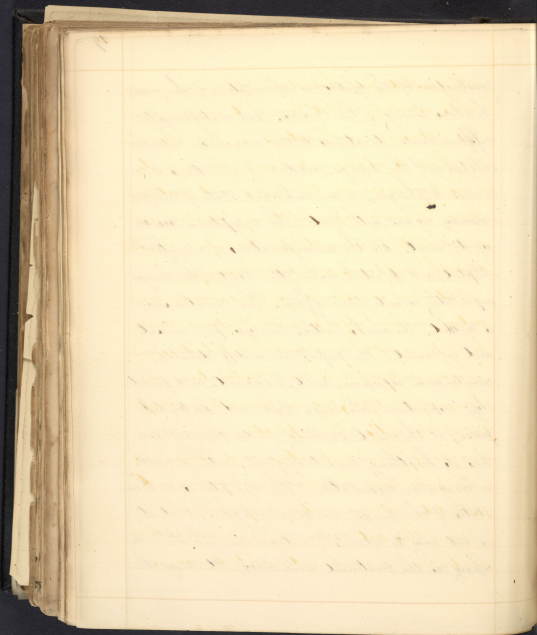


But should cough, hoarseness, with tightness of chest and difficulties of respiration remain, we may use the "Compound Syrup of Squills," or what is very good the *Polygala Seneca*. This last is spoken in very high terms of, by P. Chapman, in extinguishing the remnants of the disease. It was first introduced in the treatment of this disease by Doct. Archer of Maryland, who gave it unlimited praise. He used it in every form, and stage of the disease, sometimes as an emetic, and under other circumstances as an expectorant. It is now chiefly confined to the secondary or ultimate stage of this complaint, and chiefly as an expectorant. It is exceedingly useful to overcome hoarseness, and other sequelae of this disease.

The foregoing treatment relates to the forming and earlier stages of Croup, while the inflammation is confined pretty much to the upper portion of the trachea, and consist either in a spasmodic

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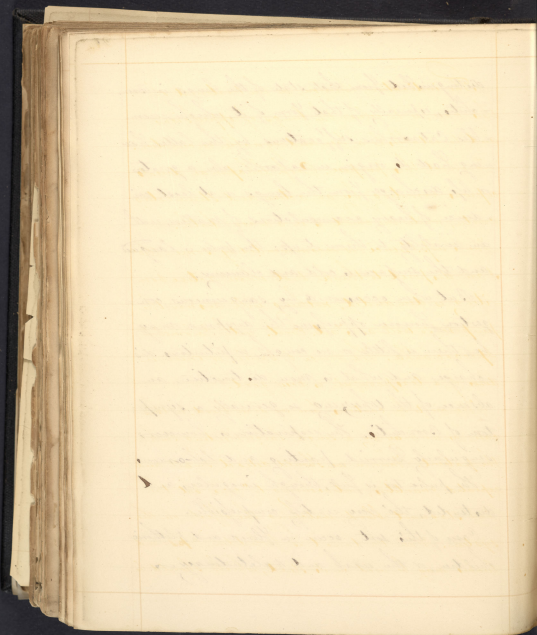
constriction of the Glottis, or inflammation of the mem-  
 branous lining of the larynx. But continuing ten  
 or fifteen hours, it extends to the bronchia, into the  
 substance of the Lungs, producing collections of  
 mucus or phlegm, or an engorged state of the pul-  
 monary organs, with blood. The symptoms are ve-  
 ry different. all the manifestations of an inter-  
 rupted, and defective circulation exist. The lungs  
 imperfectly execute their office. The countenance  
 is mottled, the cheeks hectic, the eyes prominent  
 and inflamed. The pupils are widely dilated,  
 countenance oppressive, wild, haggard, and ghost-  
 -ly; respiration laborious; full and distended  
 pulse; or the child sinking under the disease.  
 Has its breathing more tranquil, with a weak  
 or irregular circulation. The symptoms in these  
 states of the lungs are so analogous, that it  
 is not easy to establish a diagnosis; tho' it is ne-  
 cessary as the treatment will vary. It may be



distinguished from that state of the lungs in Bron-  
-chitis, especially of that form of it, which accom-  
-panies Catarrhus suffocatus, by the latter hee-  
-ing had its origin in catarrh; also a greater  
or less discharge from the lungs, or at least evi-  
-dence of heavy accumulations of matter, with  
an inability to throw it up; the pulse is large  
and the surface is cold and clammy.

But when occasioned by sanguineous con-  
-gestion, however oppressing the dyspnea may  
be, there is little or no cough, or pituitous dis-  
-charge, and what is more distinctive, an  
absence of the wheezing, so generally a symp-  
-tom of Bronchitis. The respiration is, however,  
singularly hurried, panting and laborious.  
The pulse too is full, though irregular, and  
distended, tho' very readily compressible.

Cases of this sort, occur in florid and plethoric  
children, or the weak and sallow.



The indication, therefore, in the treatment of this case, is to relieve the lungs of oppressions, and to establish a free and equable circulation. To effect this purpose, Prof. Chapman directs copious vomiting, by an active and stimulating emetic, while the child is in a warm bath.

The Pulp. Lincii is recommended by some, tho' I am disposed to think, that where active vomiting is demanded, nothing will answer the purpose so well as Tart. Emst. with Calomel & Ipecacuanha. The Juice of Garlic, or onion in doses of a teaspoonful, is very good.

We are to be cautious, how we draw blood, in this case, as we may by a single large bleeding, sink the patient. Therefore we should delect small and repeated quantities, endeavouring to "ease but the half stagnant blood, watching the effect on the system. When the lancet is forbidden, cups and leeches may be used in its stead, which should be

*[Faint, mirrored handwriting, likely bleed-through from the reverse side of the page. The text is illegible due to fading and mirroring.]*



applied to the back. The bleeding should be followed by a blister applied on the breast, and if the case is very urgent, as to admit of no delay, some means of more prompt excitation, may be resorted to, as cloths, wrung out in hot water, or what is perhaps still better, pledgets of lint dipped in a decoction of balaustides, made with the spirits of Turpentine. The subsequent treatment consists principally of the use of expectorants; the best of which is the "compound syrup of squills," also antimonial wine; the oxymel, vinegar of squills, decoctions of Seneca root, either alone, or combined with carbonate of ammonia. Much may be expected from the liberal use of Calomel. It is a very active expectorant. Dr. Hamerton, we are told gave one hundred grains in twenty four hours, to a child.

The disease not yielding to the foregoing treatment the vessels of the inflamed surface, relieve themselves by an effusion of coagulable lymph, forming a disci-



= dense membrane. This stage is one of great danger to the patient, since we cannot with certainty get rid of the membrane, or if we could, we cannot change, but rarely, the disposition of the parts, to form new ones.

The indications, therefore, are, 1.<sup>st</sup> to remove this membrane, and 2.<sup>nd</sup> After removed, to prevent the formation of more. 1.<sup>st</sup> The membrane has been removed by Emities. Dr. Duverger relates the case of a child of his, in whom the membrane was removed by this means; but the disposition to form new ones still remaining, it was reproduced, and proved fatal. Several cases are related by Dr. Wolsch\*, which came under the care of Dr. Francis in which Emities proved very effectual in removing it. When the obstruction is purely mechanical, that remedy, which gives the most sudden shock to the respiratory organs, would bid fair - of success, Hence the utility of pretty powerful

\* See appendix to Thomas' Practice.



Emetics. This all practitioners agree to, but some  
 variety of opinion exists, as to the proper substance  
 for this purpose. In the cases related, by Dr. Wmack  
 the titinolin Emetic as Sulphate of Zinc, and Sulphate  
 of Copper, were used. Dr. Dewees relies on the Polyg-  
 ala Seneca, with more confidence than any other  
 of the Emetic substances. He gives it in the fol-  
 lowing form. "Take half an ounce of powdered Seneca,  
 pour on it half a pint of boiling water, and let it  
 simmer until nearly half reduced; strain it care-  
 fully, and give a tea-spoonful every fifteen or twenty  
 minutes, until it <sup>operates</sup> ~~pulls~~ This quantity will an-  
 swer for a child from one to three years old - For one  
 of greater age, two tea-spoons full at a time may  
 be given. This medicine he says is apt to run off  
 by the bowels, when exhibited thus strong; therefore  
 a quantity of Laudanum should be given from time  
 to time, say two or three drops every two or three hours.  
 He thinks, that he has seen evident relief in a



case from the Stts. of Scorpentine. Twenty drops were  
given every hour, but the patient died.

We are told that a late Roman writer strongly  
recommends action sternalis, to produce  
sneezing. Lastly, Tracheotomy has been propos-  
-ed, and performed, generally without success,  
and the reason is very obvious, for by the operation,  
we only remove the present obstructing cause, and  
do not remove the disposition of the parts to form  
more. It has been said that the failure was owing  
to our performing the operation too late, and therefore  
it has been advised to be performed earlier in the dis-  
ease. This practice might prove successful, but  
few practitioners, I think, would be willing to perform  
it.

